

ENTRY	NUMBER	ROUTING DESTINATION
A	908 979 XXXX	STATION NUMBER
B	908 852 XXXX	CENTRAL OFFICE 852
C	908 XXX XXXX	908 TANDEM SWITCH
D	XXX XXX XXXX	LONG DISTANCE POINT- OF-PRESENCE

FIG. 1
PRIOR ART

ENTRY	NUMBER	NUMBER	ROUTING DESTINATION
A	908 XXX XXXX		EXAMINE LIST THAT FOLLOWS
A.a		908 979 XXXX	STATION NUMBER
A.b		908 852 XXXX	CENTRAL OFFICE 852
A.c		908 XXX XXXX	908 TANDEM SWITCH
B	XXX XXX XXXX		LONG DISTANCE POINT- OF-PRESENCE

FIG. 2

ENTRY	NUMBER	LEVEL	ROUTING DESTINATION
A	908 979 XXXX	3	STATION NUMBER
B	908 852 XXXX	3	CENTRAL OFFICE 852
C	908 XXX XXXX	2	908 TANDEM SWITCH
D	XXX XXX XXXX	1	LONG DISTANCE POINT- OF-PRESENCE

FIG. 3

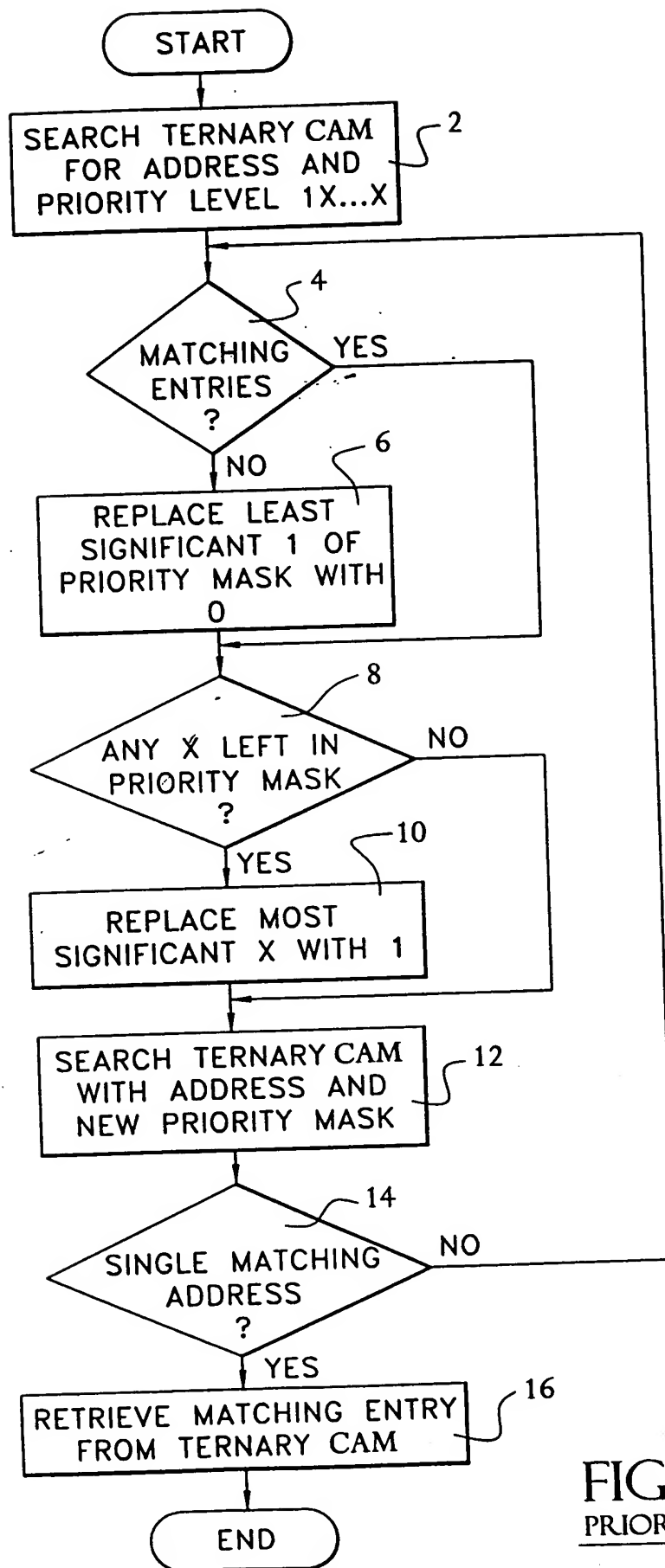


FIG. 4
PRIOR ART

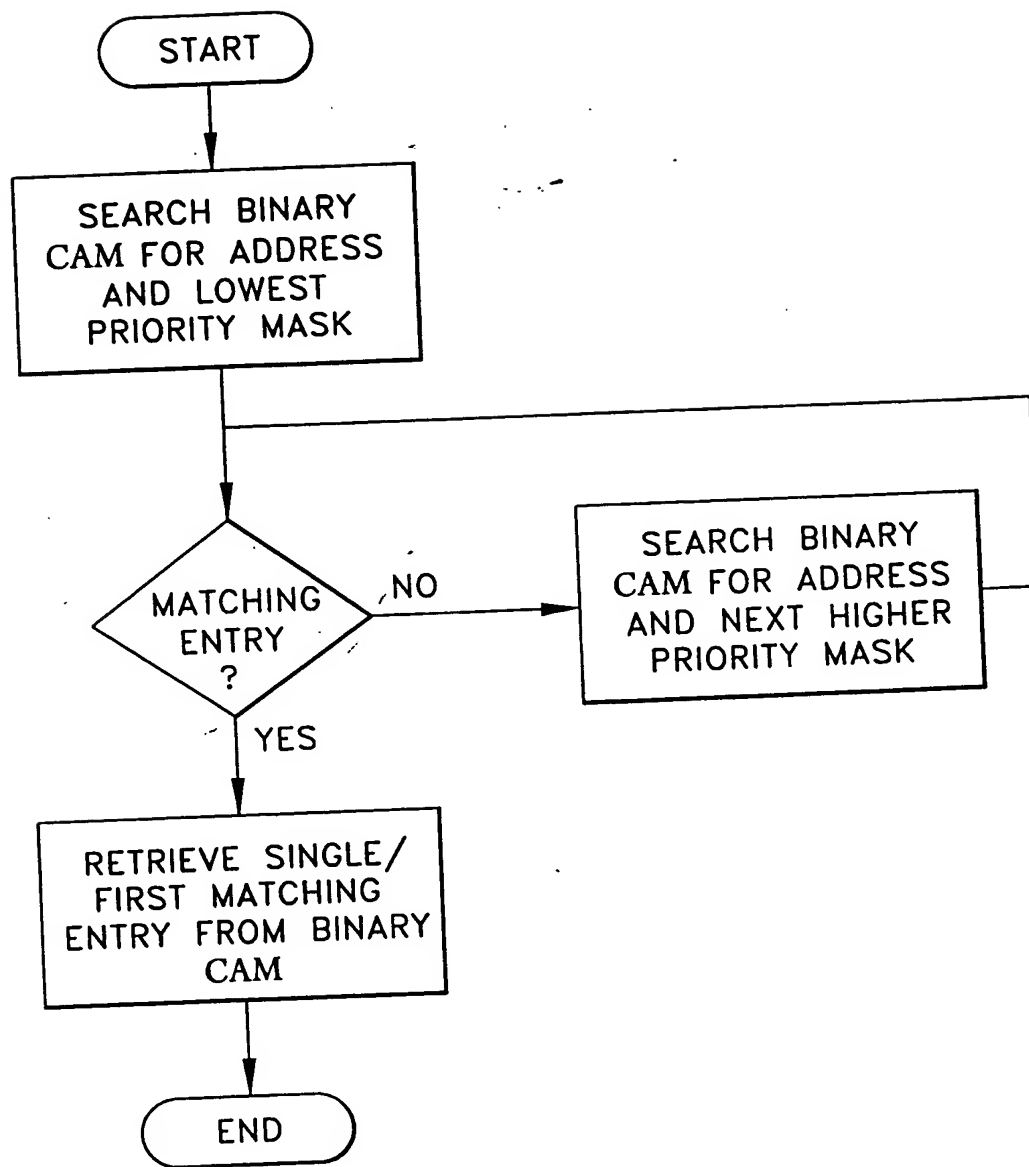


FIG. 5
PRIOR ART

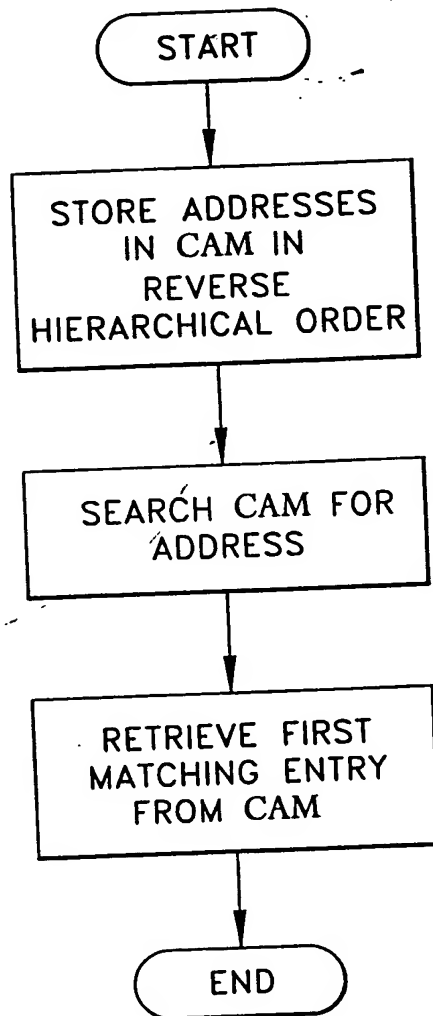


FIG. 6
PRIOR ART

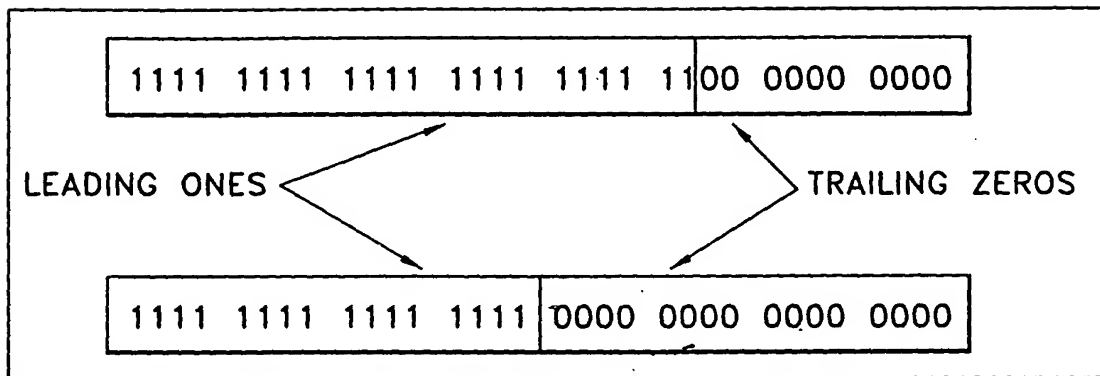


FIG. 7

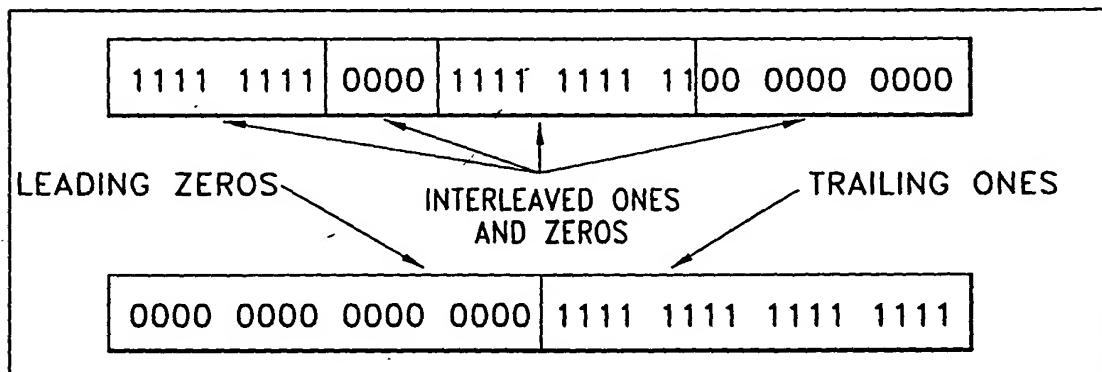


FIG. 8

ADDRESS	MASK
CO.18.OC.15	FF.FF.FF.FF/32
CO.18.OC.10	FF.FF.FF.F0/28
CO.18.OC.00	FF.FF.FC.00/22
CO.18.00.00	FF.FF.00.00/16

FIG. 9

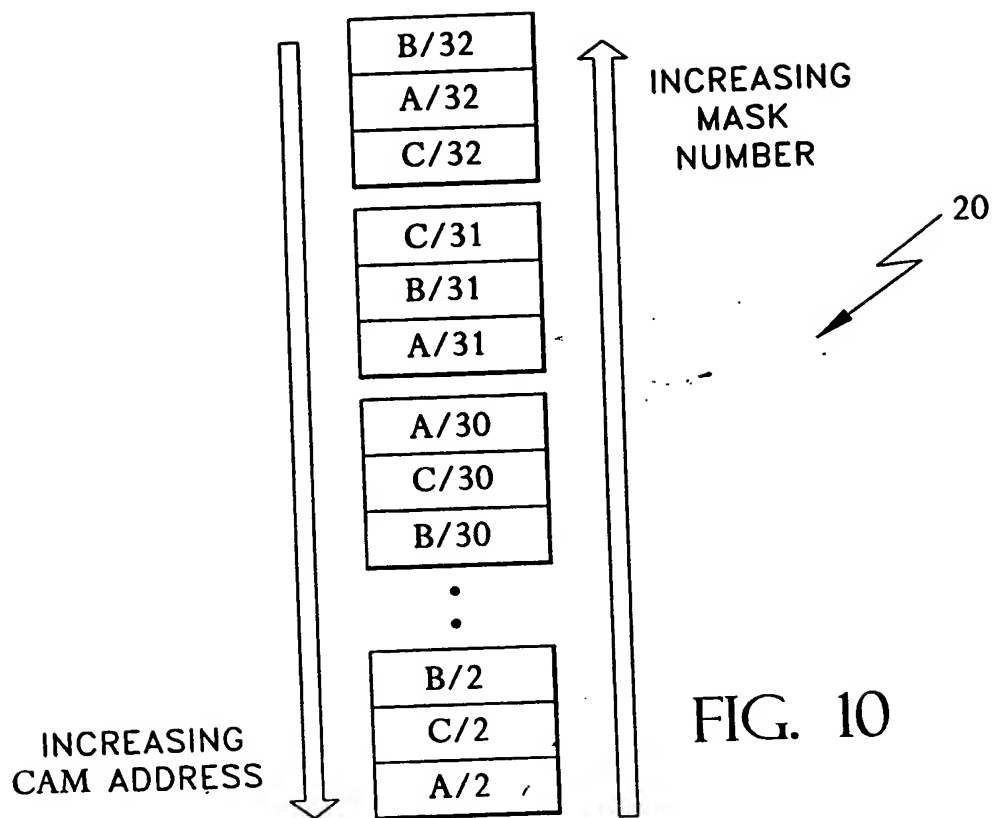


FIG. 10

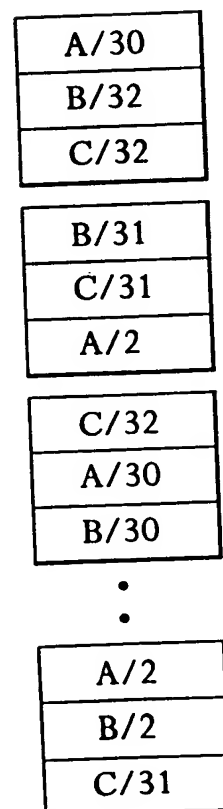


FIG. 11

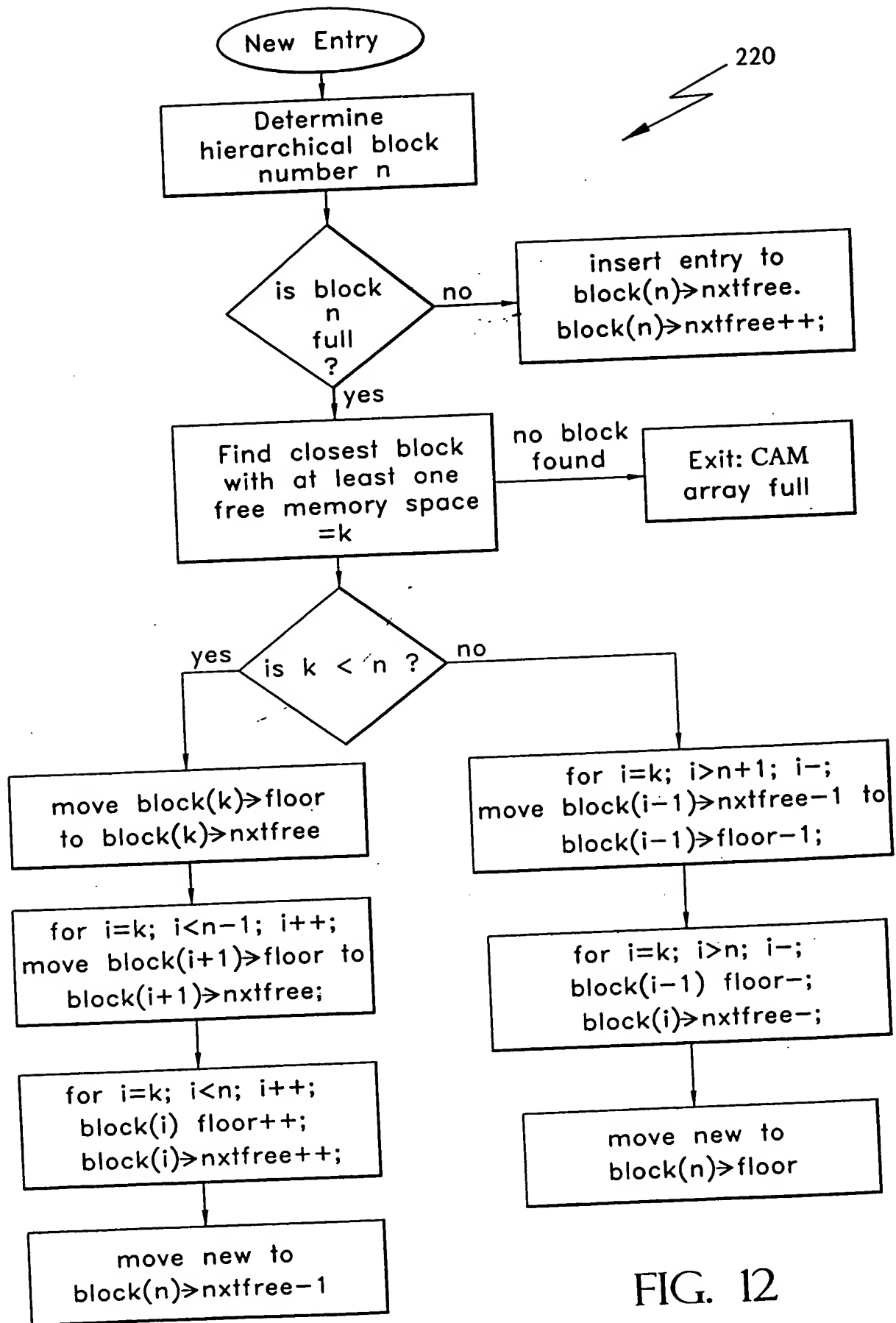


FIG. 12

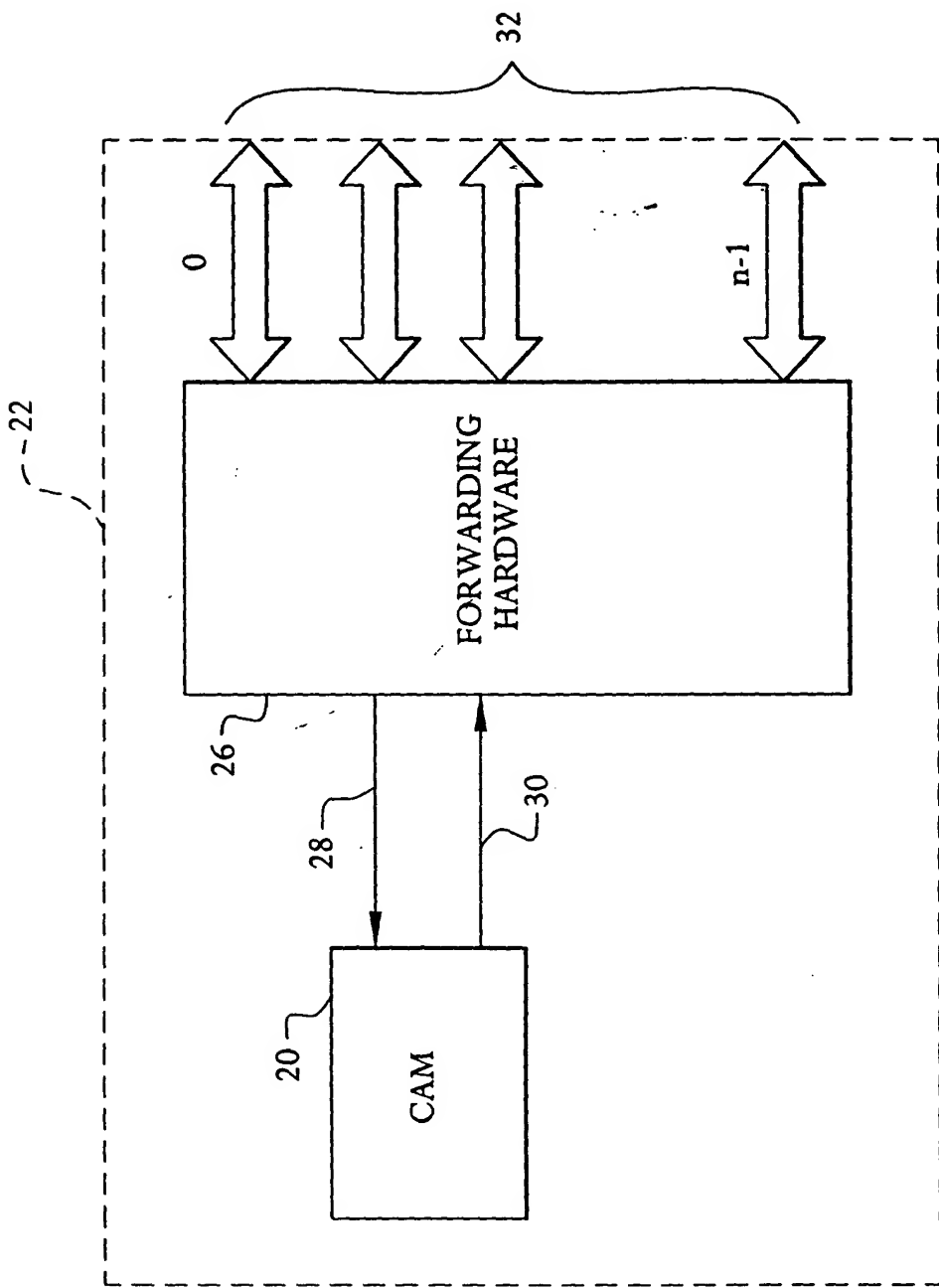


FIG. 13

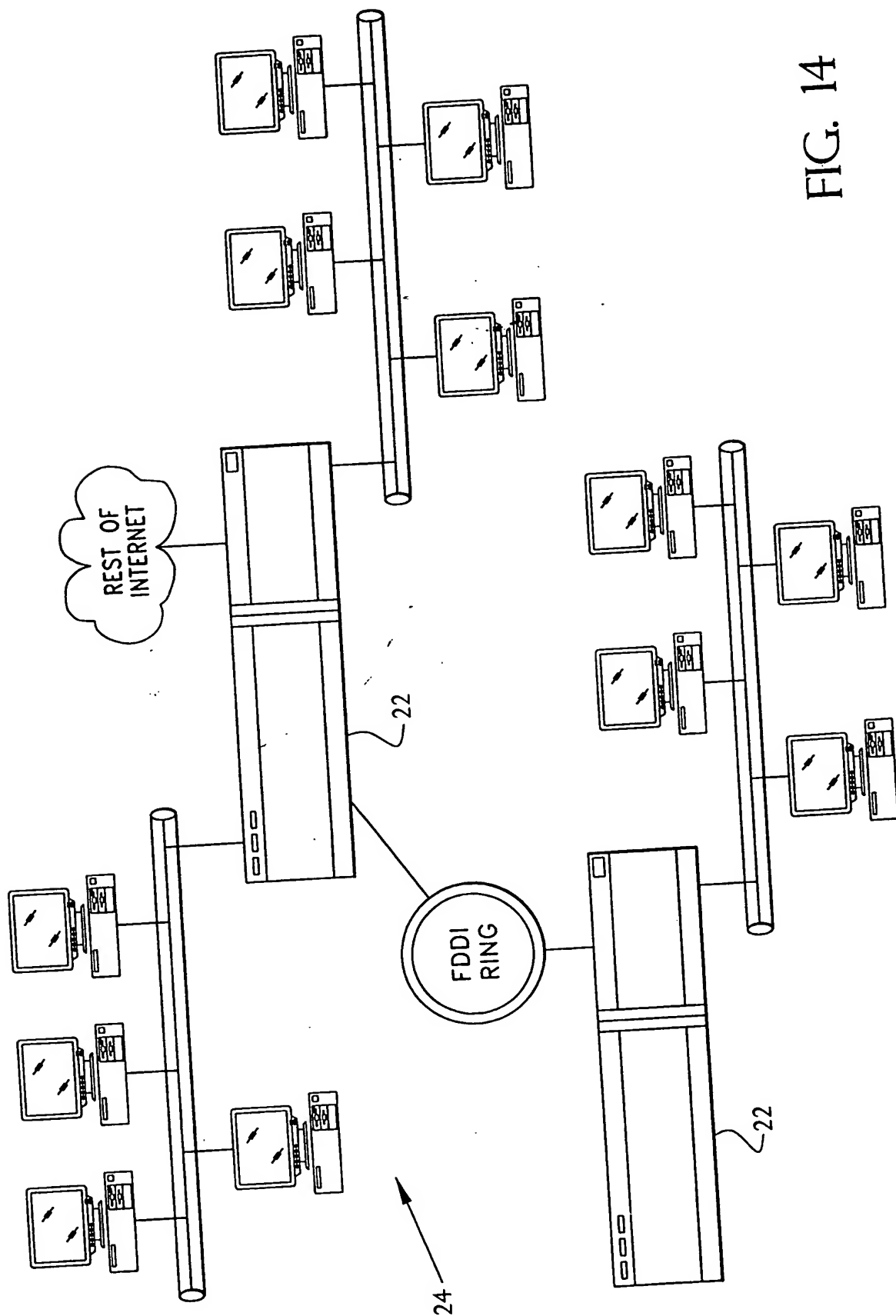


FIG. 14

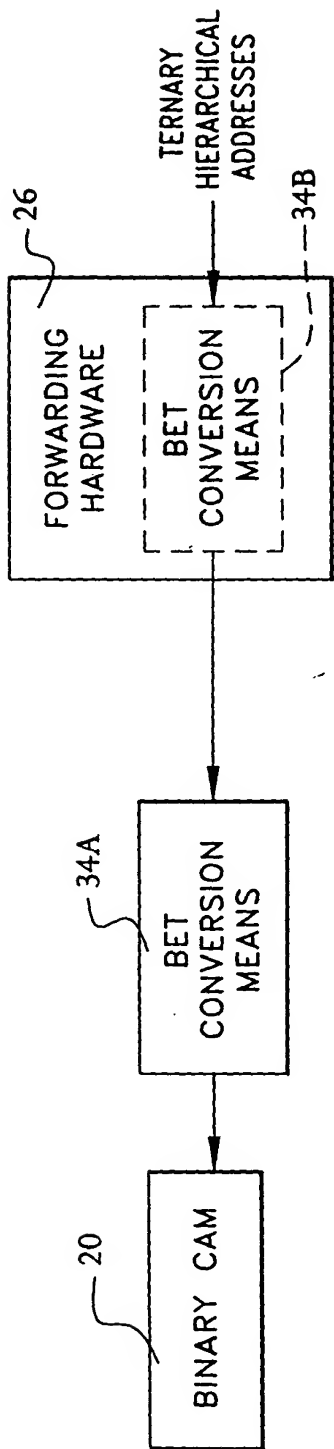


FIG. 15

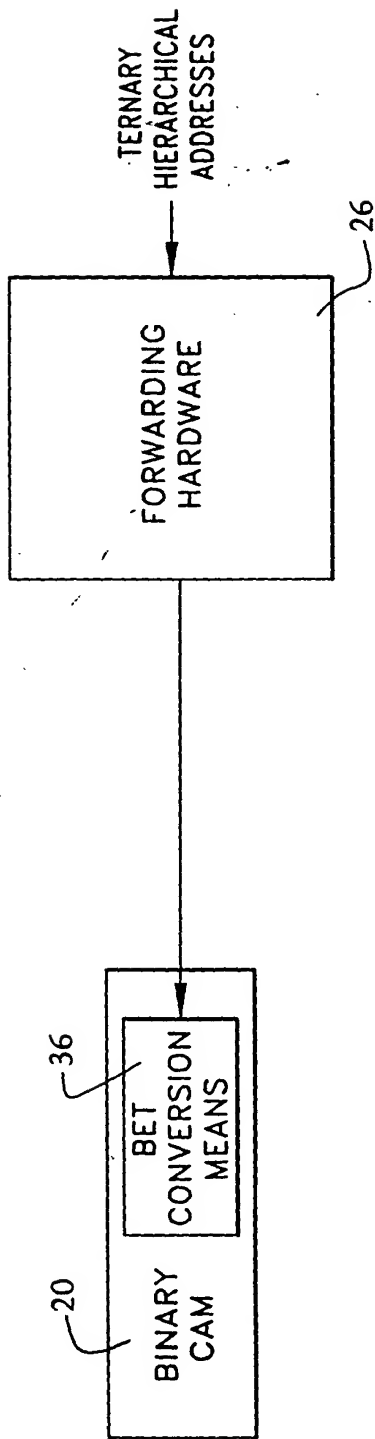


FIG. 16

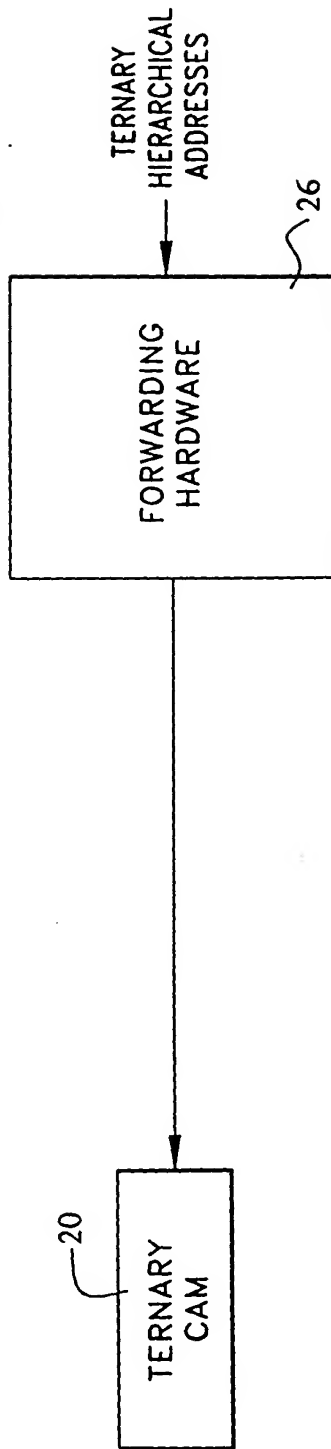


FIG. 17

63	32	31	0
ADDR AND MASK		(!ADDR) AND MASK	
CO.18.OC.15		3F.E7.F3.EA	

FIG. 18

TERNARY	BINARY ENCODED
0	01
1	10
X	00

FIG. 19

38	COMPARAND BITS	10(1)	10(1)	10(1)
40	MASK BITS	10	10	10
	CAM BITS	00(X)	01(0)	10(1)
	RESULT	MATCH	NO-MATCH	MATCH

FIG. 20

COMPARAND BIT	0	1	0	1	0	1	0	1
MASK BIT	0	0	1	1	0	0	1	1
CAM BIT	0	0	0	0	1	1	1	1
RESULT	MATCH	NO-MATCH	MATCH	MATCH	NO-MATCH	MATCH	MATCH	MATCH

FIG. 21

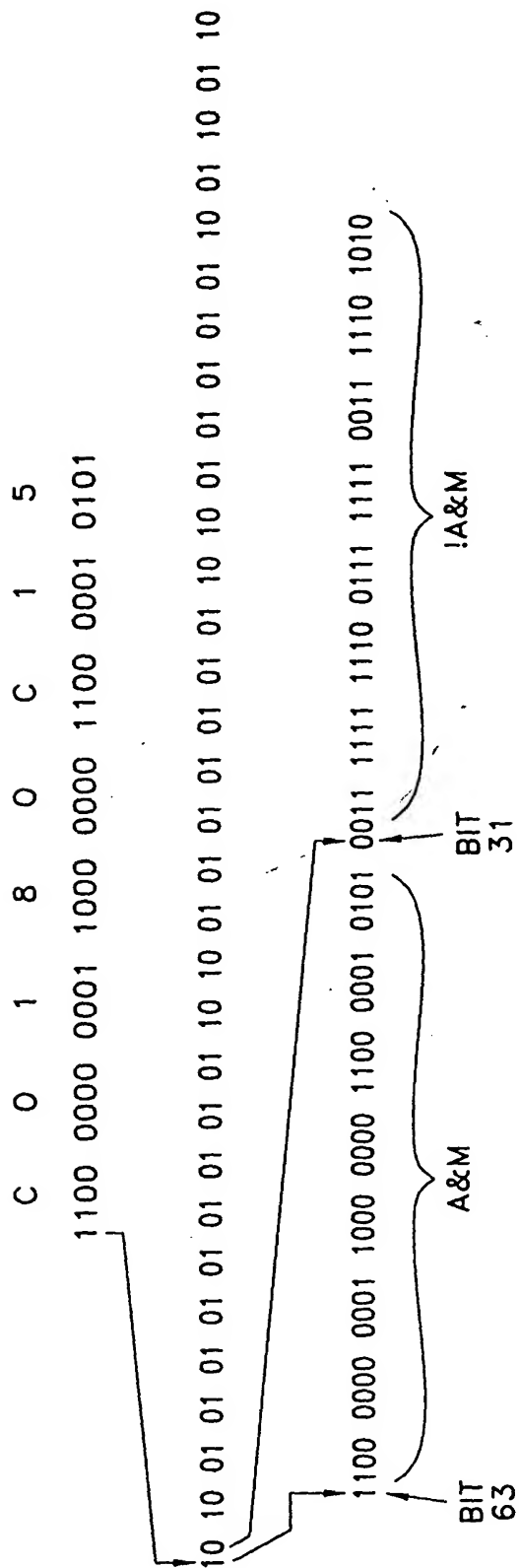


FIG. 22

C 0 1 8 0 0 C 1 5 3 F E 3 E A

1100 0000 0001 1000 0000 1100 0001 0101 C0180C15
 0011 1111 1110 0111 1111 0011 1110 1010 3FE7F3EA

FIG. 23

ENTRY	IP ADDRESS	IP MASK	CAM BITS [63:32]	CAM BITS [31:0]
1	CO.18.OC.15	FF.FF.FF.FF	CO.18.OC.15	3F.E7.F3.EA
2	CO.18.OC.10	FF.FF.FF.F0	CO.18.OC.10	3F.E7.F3.E0
3	CO.18.OC.00	FF.FF.FC.00	CO.18.OC.00	3F.E7.F0.00
4	CO.18.00.00	FF.FF.00.00	CO.18.00.00	3F.E7.00.00

FIG. 24

COMPARAND REGISTER	1100 0000 0001 1000 0000 1100 0001 0101 0011 1111 1110 0111 1111 0011 1110 1001
MASK REGISTER	1100 0000 0001 1000 0000 1100 0001 0101 0011 1111 1110 0111 1111 0011 1110 1001
CAM ENTRY	1100 0000 0001 1000 0000 1100 0000 0000 0011 1111 1110 0111 1111 0000 0000 0000
RESULT	xxxY YYY YYYx xYY YYY xxyY yyyX yxyX yyxx xxxx xxyY yxxx xxxx yyxx xxyx xyyx

NOTES:

1. x = THE RESULT WAS A "DON'T CARE" MATCH.
2. y = THE RESULT WAS A NORMAL BINARY MATCH.

FIG. 25

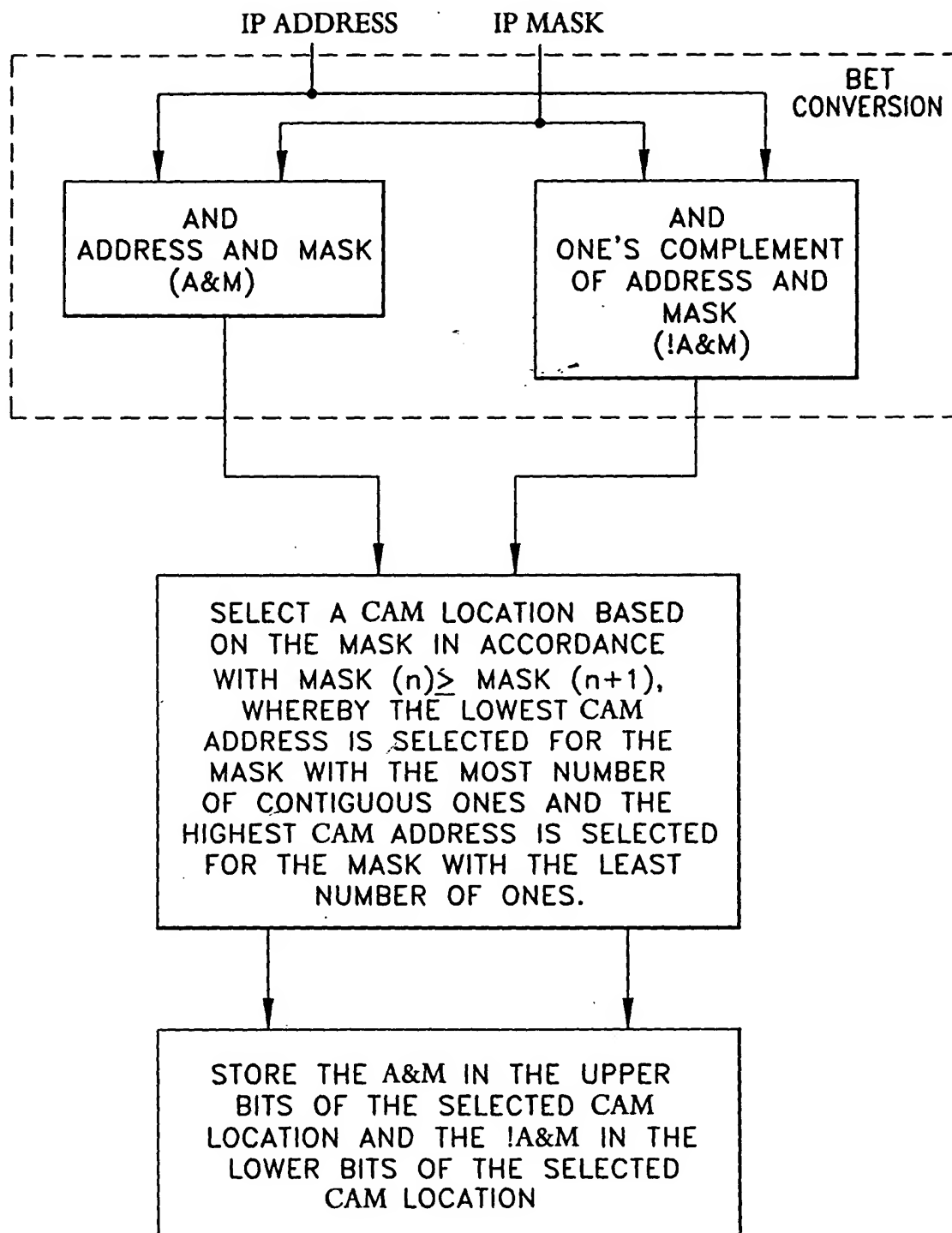


FIG. 26

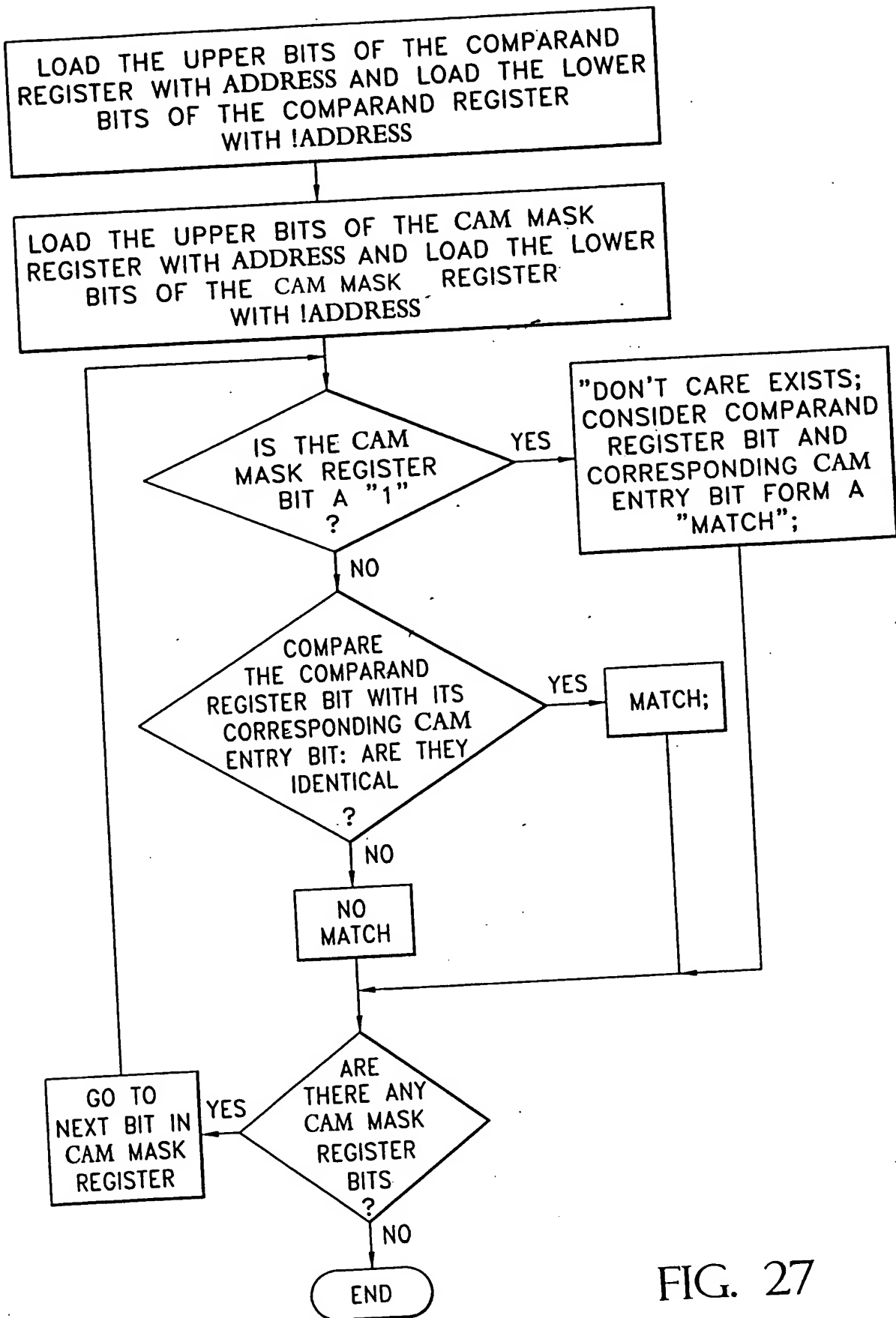


FIG. 27

f=FLOOR ENTRY
 n=NEXT-FREE
 ENTRY
 /#=MASK OR
 BLOCK NUMBER

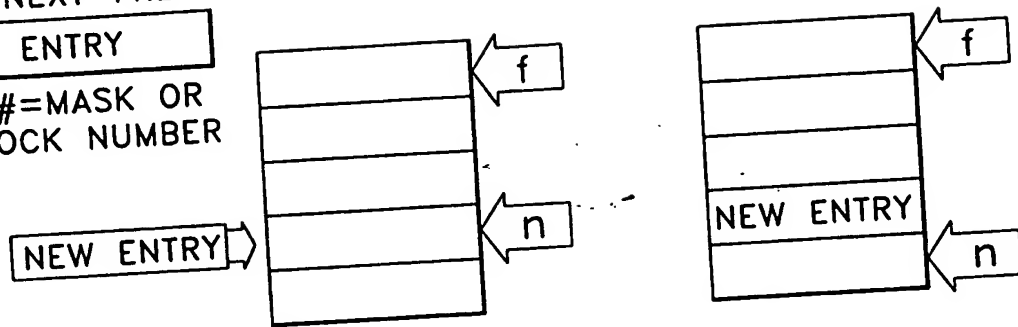


FIG. 28

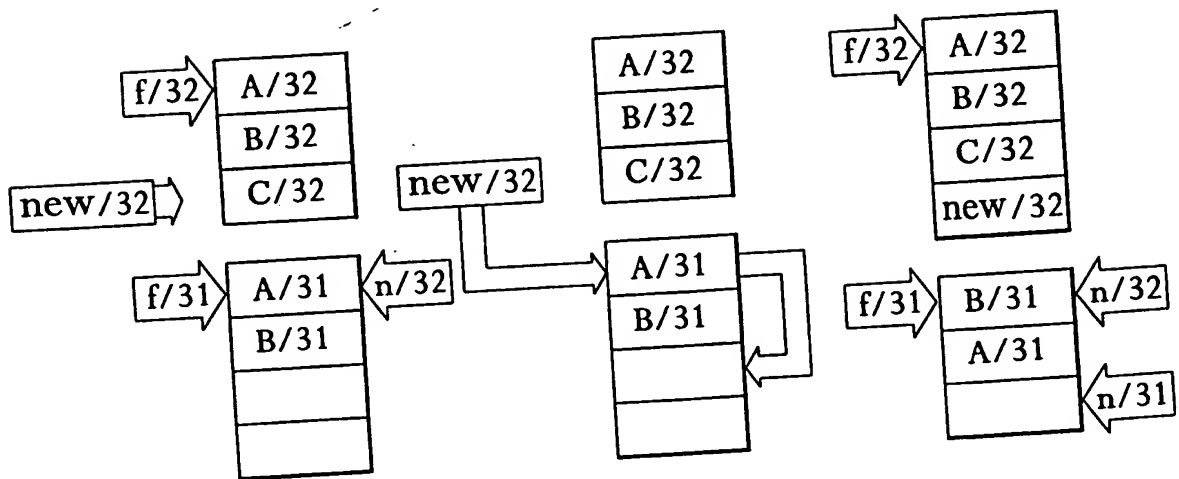


FIG. 29a

FIG. 29b

FIG. 29c

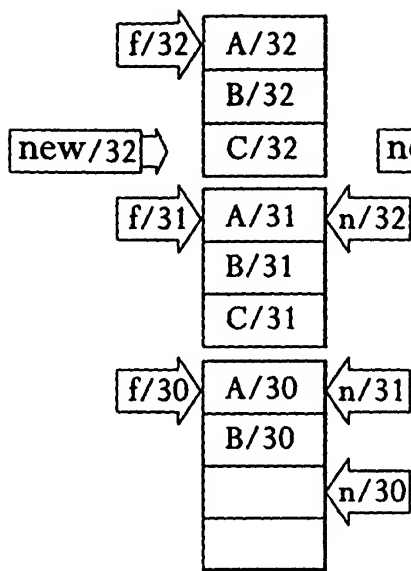


FIG. 30a

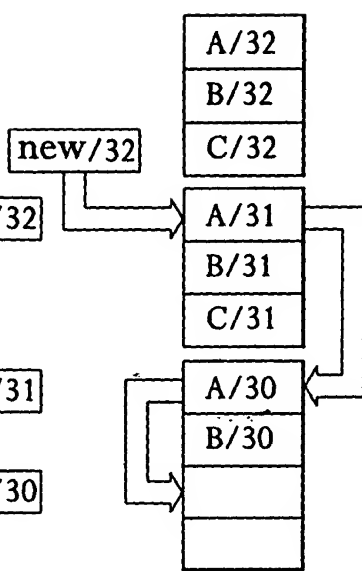


FIG. 30b

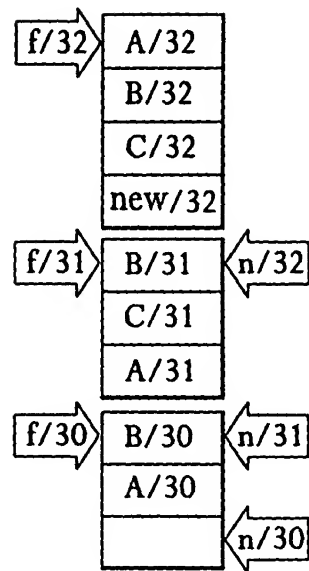


FIG. 30c

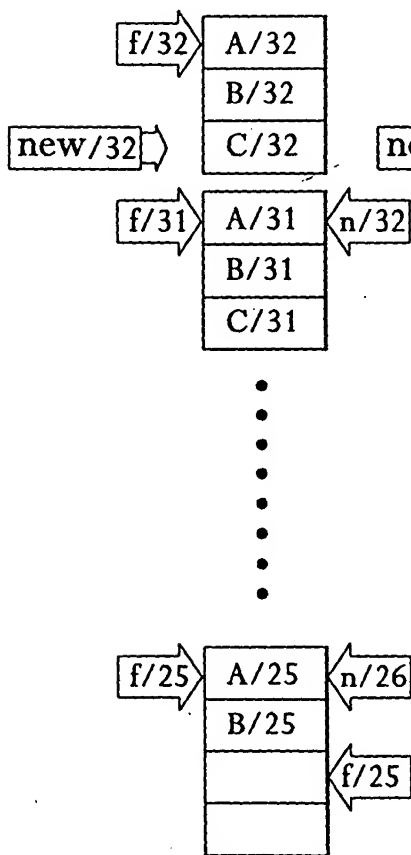


FIG. 31a

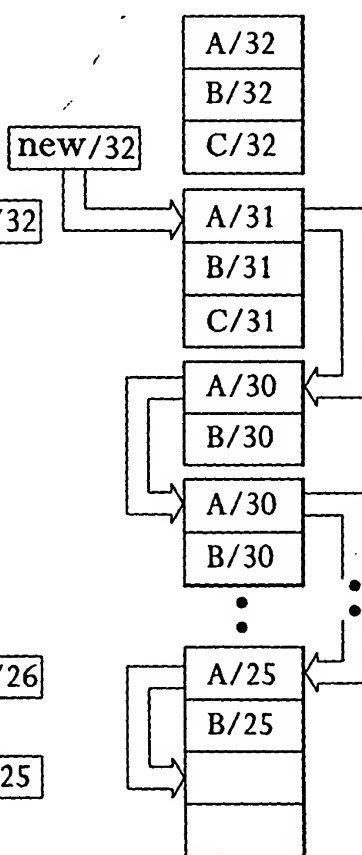


FIG. 31b

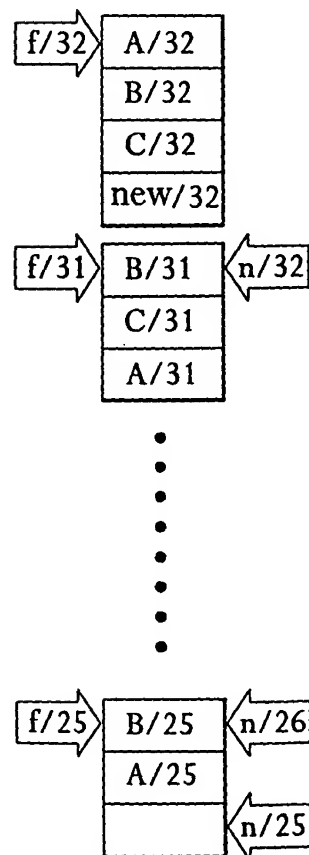


FIG. 31c

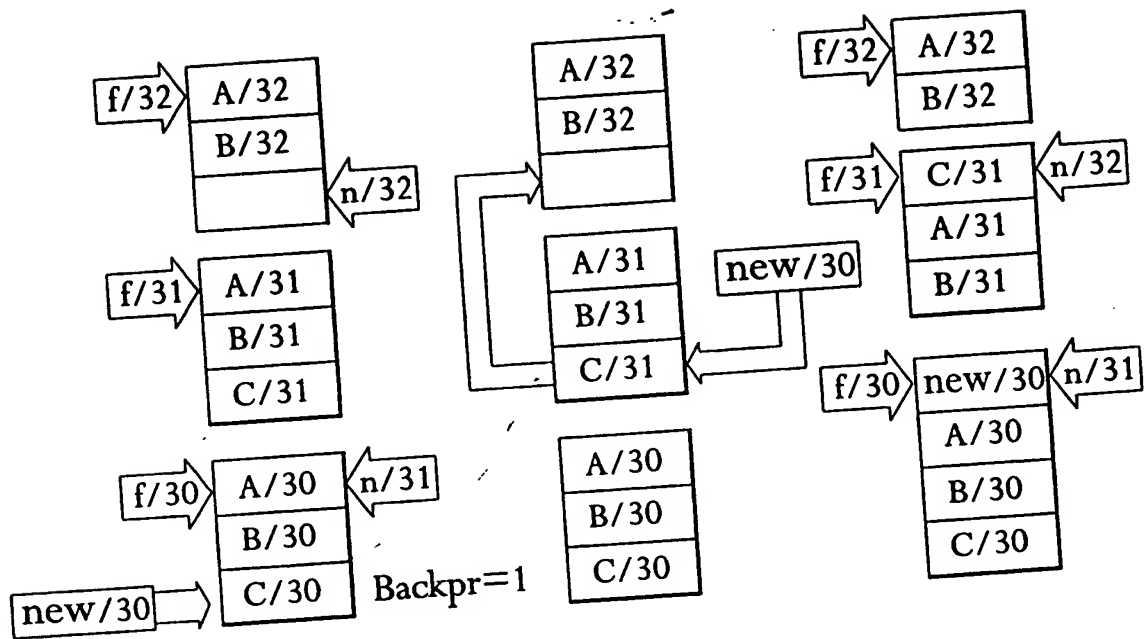


FIG. 32a

FIG. 32b

FIG. 32c

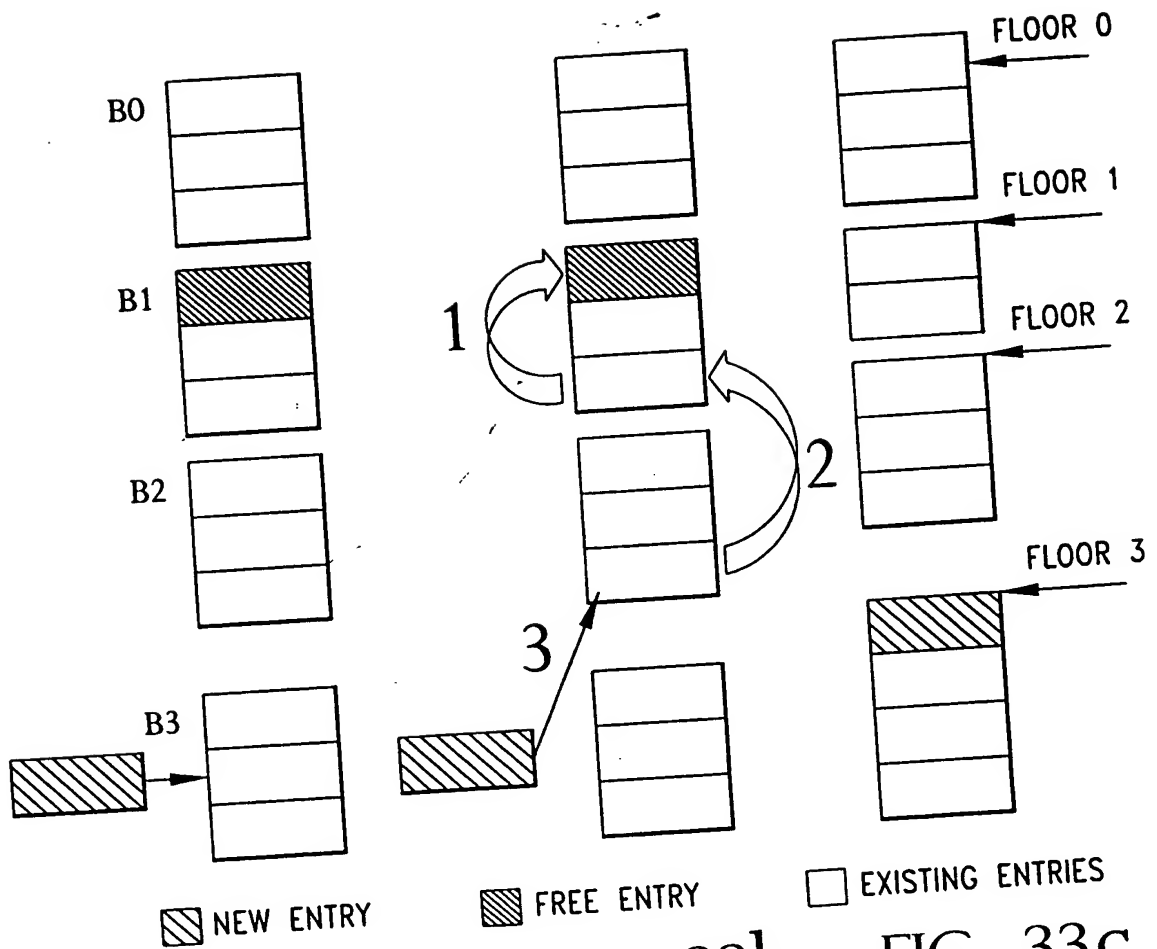


FIG. 33a

FIG. 33b

FIG. 33c

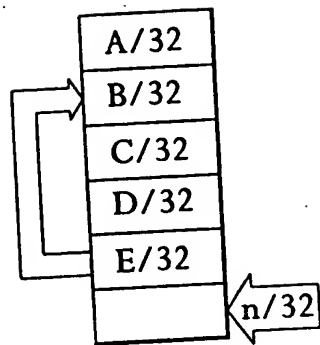


FIG. 34a

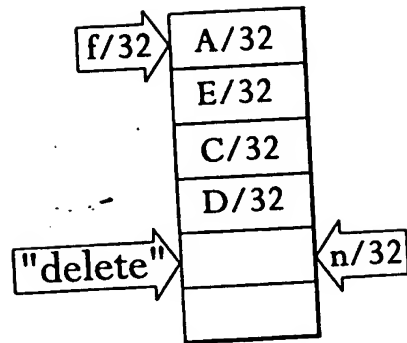


FIG. 34b

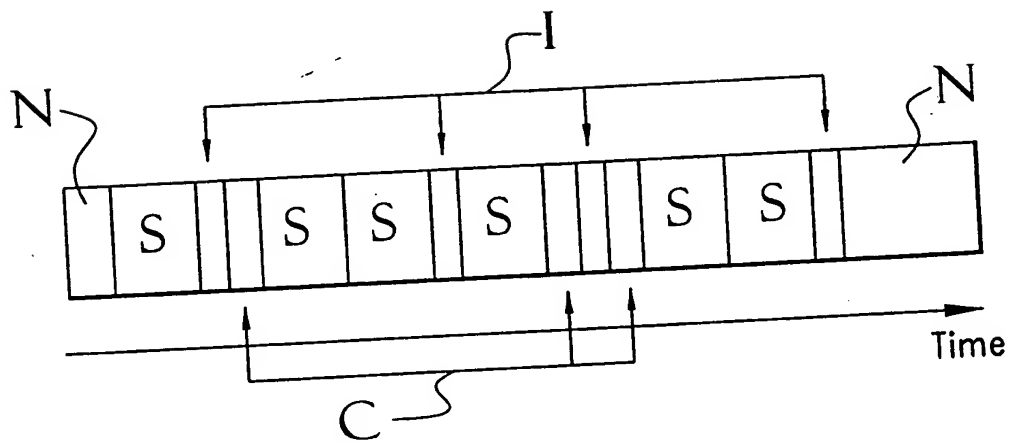


FIG. 35